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Concrete Improvement Technology

(LTU ID #2004-25 and 2004-27)

Description

We have developed a practical way to rehabilitate poured concrete after it has been cured. This method involves electrokinetic nanoparticle treatment of concrete. The process has wide applications from mitigation of corrosion of embedded steel to concrete strengthening and sealing.

Advantages

- Relatively low cost process.
- The process can be applied to already poured and hardened concrete.
- The process can be adapted to seal concrete, strengthen concrete, and mitigate corrosion of steel rebars embedded in it.
- This process has the potential to repair existing structures and avoid costly rebuilding of structures.

Areas of Application

- Corrosion Mitigation:
This process can be utilized to mitigate corroded rebars in concrete structures such as highways and roadways.
- Concrete Sealing:
This process can be used to help seal concrete walls (e.g. basement walls) from water penetration or leaks.
- Concrete Strengthening:
The process can also be used to improve the strength of hardened concrete.

Patent Status

- US 8,377,278 and US 9,150,459